



# ENERGY POLICY UPDATE

MARCH 16, 2015

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email [Gloria Castro](#).

## CONTENTS

- ✚ **ARIZONA-RELATED**
- ✚ **ALTERNATIVE ENERGY & EFFICIENCY**
- ✚ **ENERGY/GENERAL**
- ✚ **INDUSTRIES & TECHNOLOGIES**
- ✚ **LEGISLATION & REGULATION**
- ✚ **WESTERN POWER**
- ✚ **STATE INCENTIVES/POLICIES**
- ✚ **GRANTS**
- ✚ **EVENTS**

## UPCOMING WEBINARS

Western Governors' Drought Forum Webinar Series:  
Click [here](#) for more information or to register.

March 25: [Managing Forest Health for Water Resources](#)

April 8: [One Size Doesn't Fit All: Why Variation in Hydrology and Legal Structures means that Drought Looks Different across the West](#)



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The Arizona Republic now has limited access. As such, links may or may not work.

## ARIZONA-RELATED

### [Arizona Regulators: APS To Ask for Higher Solar Fees](#)

[Arizona Republic, Mar. 13] Arizona Public Service Co. is preparing a request for state utility regulators that will further increase monthly fees on solar customers, officials said Friday. "We are expecting a filing," said Rebecca Wilder, spokeswoman for the Arizona Corporation Commission, which regulates utilities. APS would not confirm that a filing is imminent, but APS officials have said they were watching closely as neighboring electric company Salt River Project raised rates on customers who installed solar after Dec. 8. APS asked for rate changes in 2013 that would average \$50 to \$100 a month on solar customers to cover their use of the power grid, which would cut into or eliminate the savings of many solar customers. After a lengthy series of hearings at the Arizona Corporation Commission, regulators approved fees that average \$5 a month on solar customers. APS officials and two of the five commissioners at the time lamented those fees were too small. The fees were based on charging 70 cents per kilowatt of capacity, and at the time the average residential solar array was 7 kilowatts, equating to a charge of \$4.90 a month. APS customers who have installed solar after Dec. 31, 2013, also have contracts that, according to the decision, were to make it clear the 70-cent fee can be increased or decreased.

### [ASU Researchers Explore Longer Life Cycle for Batteries](#)

[ASU News, Mar. 5] Lithium-ion batteries are common in consumer electronics. They are one of the most popular types of rechargeable batteries for portable electronics, with a high energy density, no memory effect and only a slow loss of charge when not in use. Beyond consumer electronics, lithium-ion batteries have also grown in popularity for military, electric vehicle and aerospace applications. Now, researchers at Arizona State University are exploring new energy storage technology that could give the battery an even longer life cycle. Led by Dan Buttry, professor and chair of ASU's Department of Chemistry and Biochemistry, the research also involves former undergraduate researcher Jarred Olsen and current graduate student Tylan Watkins. Olsen joined Buttry's group as an undergraduate researcher to work in the ionic liquids area. The work he contributed to this study was performed while he was on an internship at Boulder Ionics working at both Boulder and ASU with Watkins. Olsen is currently a doctoral student at the University of Washington, Seattle. The research, just published in Nature Communications, brings together scientists from Arizona State University, University of Colorado at Boulder, Sandia National Laboratories, Boulder Ionics Corporation and Seoul National University, Korea.

### [CG Wins Award for Sustainable Growth](#)

Economic development plan ranked 2nd best among 16 cities in state  
[Casa Grande Dispatch, Mar. 4] The city of Casa Grande received a second-place award from VerdeXchange Arizona's annual conference on sustainable economic growth. Casa Grande was one of 16 Arizona cities vying for the conference's top honor of 2015 Sustainable Economic Growth City, Airport and Economic Development Manager Richard Wilkie told the City Council Monday. The city of Cottonwood took first place. "Two rural communities beat out all the large metropolitan areas," Wilkie said. The award recognizes Casa Grande's

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**ENERGY STAR Webinars**  
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U.S. Dept. of Energy Tribal  
Renewable Energy Webinar Series  
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U.S. Dept. of Energy Webinars

**2015 UPCOMING EVENTS**

**GLOBALCON Conference &  
Expo**

Mar. 17-18 Philadelphia, PA

**Balance-Unbalance Int'l.  
Conference; Water, Climate, Place:  
Reimagining Environments**

Mar. 27-29 Tempe, AZ

**Arizona Science & Engineering  
Fair**

Apr. 7-9 Phoenix, AZ

**Tribal Economic Outlook  
Conference**

Apr. 9 Flagstaff, AZ

**Solar Summit 2015**

Apr. 14-15 Phoenix, AZ

**Utility Solar Conference**

Apr. 27-29 San Diego, CA

**CxENERGY 2015 Conference &  
Expo**

Apr. 27-30 Las Vegas, NV

**Alternative Clean Transportation  
(ACT) Expo**

May 4-7 Dallas, TX

**NARUC Utility Rate School -  
Western**

May 11-15 San Diego, CA

**Solar Power Generation Mexico**

May 19-20  
World Trade Center, Mexico

**Better Buildings Summit**

May 27-29 Washington, DC

**Energy Efficiency Finance  
Forum**

May 31-Jun. 2 San Francisco, CA

**Industrial Energy Tech.  
Conference 2015**

Jun. 2-5 New Orleans, LA

**33rd West Coast Energy Mgmt.  
Congress**

Jun. 3-4 Long Beach, CA

**14<sup>th</sup> Annual Small Business  
Forum & Expo**

Jun. 16-18 Phoenix, AZ

sustainable economic development efforts including investment in infrastructure like roads and the sewer plant as well as its ability to attract manufacturers, distribution centers and other employers, according to Wilkie.

**Florence Unified Earns "Energy Star K-12 District Award"**

[Pinal Partnership, Mar. 2] On February 12, the Florence Unified School District received the "Energy Star K-12 District Award" for being one of the most energy efficient school districts in the state. Energy Star is a national performance benchmark for building energy efficiency that helps building owners compare energy usage in their building to similar buildings nationwide. Buildings receive a rating of 1 to 100, with 50 indicating average. Schools with 75 or higher qualify to win the award. Three schools in the Florence Unified School District scored 100 (Anthem K-8, Florence K-8, and Circle Cross Ranch K-8). There were only 5 schools state-wide with a score of 100. Florence K-8 was awarded the 2014 Kilowatt Krackdown Award as the most improved school in the Energy Star competition. They will receive this award on March 18th at 11:30am at the Renaissance Hotel in downtown Phoenix. For more information please [click here](#).

**Going Green Solar Admits Fraud, Will Repay Customers**

[Arizona Republic, Mar. 3] The owners of a Phoenix solar company admitted bilking customers on the sale of energy systems that they promised would reduce utility bills and protect them from steep electricity rate increases. Going Green representatives targeted senior citizens in violation of the federal do-not-call list and told them their energy costs would rise from \$200 to \$1,500 over the next 20 years without an energy system. Going Green is the second solar company in the past month to settle fraud claims with the attorney general's office. Both cases are remarkably similar. The owners of a Phoenix solar company admitted bilking customers on the sale of energy systems that they promised would reduce utility bills and protect customers from steep electricity rate increases. Going Green Solar will repay customers up to \$111,000 to settle a consumer fraud lawsuit filed by the Arizona Attorney General's Office last month. Manager and President Jesse Gee also agreed to pay up to \$120,000 in fines and \$17,000 in attorneys fees. Going Green billed itself in advertisements as a solar-energy equipment supplier and contractor. The Attorney General's Office refers to it as a rooftop-solar company. Gee admitted his company made thousands of high-pressure telemarketing calls and in-home presentations to sell consumers energy systems that did not result in promised savings. Going Green representatives targeted senior citizens in violation of the federal do-not-call list and told them their energy costs would rise from \$200 to \$1,500 a month over the next 20 years without an energy system.

**Governor Doug Ducey Signs Bipartisan Legislation To Aid Apple Expansion in Arizona**

[Arizona Governor's Office, Mar. 3] PHOENIX - Governor Doug Ducey today signed House Bill 2670, bipartisan legislation to assist companies planning large-scale investment and expansion in Arizona. The bill will extend renewable energy tax credits and exemptions that will benefit companies like Apple, Inc., who recently announced its plans to bring a 1.3 million square-foot global command center to Mesa. Apple's expansion in Arizona amounts to a \$2 billion investment in the state - one of the largest in company history - as well as 150 full-time jobs and 300 to 500 construction jobs annually.

**Hot Spots, Cold Spots: When Temperature Goes Quantum**

*A UA-led collaboration of physicists and chemists has discovered that temperature behaves in strange and unexpected ways in graphene, a material that has scientists sizzling with excitement about its potential for new technological devices ranging from computing to medicine.*

[UA News, Mar. 5] Imagine setting a frying pan on the stove and cranking up the heat, only to discover that in a few spots the butter isn't melting because part of the pan remains at room temperature. What seems like an impossible scenario in the kitchen is exactly what happens in the strange world of quantum physics, researchers at the University of Arizona have discovered. The findings, [published](#) in the scientific journal Physical Review B, suggest that quantum effects play a role in how heat moves through a material, challenging that classic notion that heat simply diffuses from a hot spot to a cold spot until the temperature is the same throughout. Quantum temperature control on a microscale level could someday enable new technologies — for example, in computing, environmental monitoring and medicine.

**How Phoenix Would Spend \$31.7 Billion on Transportation**

[Arizona Republic, Mar. 10] A \$31.7 billion, 35-year Phoenix transportation plan approved by

[ASHRAE Annual Conference](#)  
Jun. 27-Jul.1 Atlanta, AZ

[ACEEE Summer Study on Energy Efficiency in Industry](#)  
Aug. 4-6 Buffalo, NY

[Energy Efficiency Exchange: Federal Training & Knowledge](#)  
Aug. 11-13 Phoenix, AZ

[Solar Power Int'l. 2015](#)  
Sep. 14-17 Anaheim, CA

[2015 North American NGV Conference & Expo](#)  
Sep. 15-17 Denver, CO

[ACEEE National Conference on Energy Efficiency as a Resource](#)  
Sep. 20-22 Little Rock, AR

[World Energy Engineering Congress \(WEEC\)](#)  
Sep. 30-Oct. 2 2015 Orlando, FL

[Greenbuild Int'l. Conference & Expo](#)  
Nov. 18-20 Washington, DC

[Renewable Energy World Conference & Expo](#)  
Dec. 8-10 Las Vegas, NV

[ASU Sustainability Series Events](#)

[Green Building Lecture Series](#)  
Scottsdale, AZ

the City Council last week hinges on voters passing a sales-tax increase that could go to the ballot as soon as August. The council has yet to approve exactly what wording residents will see on their ballots when they vote, but how the city would spend the money is set and debate on the plan already has started. Supporters say revenue raised from increasing the city's sales tax from 0.4 percent to 0.7 percent — or \$0.70 on a \$100 purchase — would add to other funds for a comprehensive transportation vision including light-rail expansion, new bus lines and street improvements. Opposition has focused on the cost of light rail and the size of the tax increase. Others have questioned transportation as a priority over other city needs.

#### [IO Data Center Offers Renewable-Energy Program](#)

[Arizona Republic, Mar. 5] Businesses can now opt to have their data stored in Phoenix on servers running on renewable energy, thanks to a new offering from IO. The data-center services company is partnering with Arizona Public Service Co. so that companies can pay an incremental cost to use renewable energy when hosting their data with IO. Data centers are one of the fastest growing large-scale energy consumers in the country. Arizona is an attractive location for the businesses because of its relatively low cost of electricity and low probability of natural disasters that could take a company's website offline. Already, the IO data center in Phoenix employs energy-efficiency technologies to keep its servers running in a cost-effective manner. They include using low-cost power at night to make ice, which is used in the air-cooling system in the daytime, helping reduce peak energy demand.

#### [Parched: Arizona Per Capita Water Use Declining](#)

##### *Charting How We Use Water, One Map at a Time*

[Arizona Republic, Mar. 16] The Colorado River is half-full. Lake Powell is half-empty. Lake Mead has shrunk to its lowest level. And the reservoirs of Roosevelt Lake and the Salt and Verde rivers are dwindling. If the Colorado River is declared in a shortage, Arizona could face its first water supply cut. The good news, as Kathleen Ferris of the Arizona Municipal Water Users Association points out, is that demand in major cities has actually dropped amid conservation efforts. Per capita water usage has leveled or decreased in many Valley cities over the past five years, according to data from the Arizona Department of Water Resources. Still, households in some areas use far more water than the average Arizona resident, at 100 gallons per day. Between that 10-minute shower, which could guzzle 20 to 40 gallons, and that gorgeous lawn you fight to maintain, it's easy to rack up the numbers. A series of interactive maps will document how we use one of Arizona's most precious resources. Beginning with water usage by ZIP codes within the Phoenix Water Services Department coverage area, the maps will build to include other municipalities as well as other information about our water supply.

#### [Phoenix Declares Bike Rental Program a Success](#)

[Arizona Republic, Mar. 10] Phoenix officials say a rent-a-bicycle program introduced last fall is gaining popularity, with expansion plans into Tempe and Mesa. The Grid Bike Share system registered 2,250 members who took an estimated 11,000 trips, covering 14,075 miles on the bright green bicycles in the first three months of operation, according to city officials. The program launched in November 2014 with 100 bicycles at 27 bike-share stations. The bike fleet has since tripled. "These statistics only reinforce what we expected when we started the program," Mayor Greg Stanton said in a released statement. He went on to say it's proof that Phoenix is a progressive city. "Being multi-modal — having light rail, and walkable, bike-friendly streets — is key to attracting new businesses and employees." By the next quarter, city officials said the program would expand to 500 bicycles and 50 stations. Grid Bike Share also will soon expand into Mesa and Tempe to make it a regional transportation system.

#### [Tempe Wants To Turn Garbage into Gas](#)

[Arizona Republic, Mar. 12] Tempe wants to know if it can turn food scraps, grease and other food industry detritus into fuel and maybe save the city some money in the process. So Tempe is partnering with Arizona State University on a study to map out what type of food waste exists within the city and how much potential energy those wastes could generate in a future renewable energy facility. "We have large food manufacturers that produce a lot of food, and a lot of waste," said David McNeil, Tempe's Environmental Services Manager. Instead of dumping the waste into landfills, the city started discussing the possibility of harnessing some of that potential energy. Tempe's City Council approved \$71,100 for the roughly year-long study last month.

## ALTERNATIVE ENERGY & EFFICIENCY

### [SolarCity and DIRECTV Make Solar Power More Accessible and Affordable to Homeowners Across the Country](#)

*Companies announce first-of-its-kind program at DIRECTV facility, launch special deal for solar customers this week*

[Globe Newswire, Mar. 11] Long Beach, CA – SolarCity([SCTY](#)) and DIRECTV ([DTV](#)) are teaming up to make affordable solar power even more accessible for homeowners in major cities across the country. The two companies announced the first-of-its-kind program at DIRECTV's California Broadcast Center facility today in Long Beach where SolarCity recently installed a one-megawatt solar system. Under the new service relationship, DIRECTV technicians visiting customers' homes will be able to offer those homeowners the opportunity to use solar electricity from SolarCity, making it possible for them to pay less than their current utility rates. With SolarCity, these customers can take advantage of clean power for no upfront cost and secure predictable monthly costs for years into the future. The opportunity will be offered to DIRECTV customers in every major market where SolarCity currently operates. The companies plan to offer this opportunity to even more customers as SolarCity continues to expand its operations into new markets. To celebrate the new relationship, qualified SolarCity customers who sign up to go solar between March 11 and March 18 are eligible for a special \$400 rebate to be paid upon installation.

### [Solar-Power Plane Airborne on Historic Round-the-World Trip](#)

[Associated Press, Mar. 9] ABU DHABI, United Arab Emirates — With its wings stretched wide to catch the sun's energy, a Swiss-made solar-powered aircraft took off from Abu Dhabi just after daybreak Monday in a historic first attempt to fly around the world without a drop of fossil fuel. Solar Impulse founder André Borschberg was at the controls of the single-seat aircraft when it lumbered into the air at the Al Bateen Executive Airport. Borschberg will trade off piloting with Solar Impulse co-founder Bertrand Piccard during layovers on a 35,000-kilometer (21,700-mile) journey. Some legs of the trip, such as over the Pacific and Atlantic oceans, will mean five days and five nights of flying solo. Both pilots have been training hard for this journey, which will span 25 flight days over five months before this Spruce Goose of renewable energy returns to Abu Dhabi in late July or August.

### [Solar and Storage Top Requests for Renewable Projects, BNEF Says](#)

[Bloomberg, Mar. 12] North American utilities and organizations seeking to add clean energy last year overwhelmingly preferred solar and power-storage projects, according to Bloomberg New Energy Finance. Of 52 requests for proposals, or RFPs, that totaled 3.3 gigawatts of capacity, 27 were for solar and 12 were for energy-smart technologies including storage, according to a report from the London-based research firm. These requests are typically a strong indicator of industry trends, said Will Nelson, BNEF's head of analysis.

### [Wind, Gas, Solar Dominate New Power Plant Installations](#)

[The Hill, Mar. 10] Power companies' new generating capacity this year will be dominated by wind, natural gas and solar power, the Energy Information Administration (EIA) said. Wind will see a net increase of 9.8 gigawatts of capacity throughout the country, the most of any power source, the EIA said Tuesday, based on generating companies' stated expectations. Gas accounts for another 4.3 gigawatts, followed by solar's 2.2 gigawatts, the EIA reported. The three sources will be 91 percent of new generating capacity this year. Meanwhile, coal-fired power plants are scheduled to lose 12.9 gigawatts of capacity due to retirements, accounting for 81 percent of the country's total planned retirements.

### [Wind Power Without U.S. Subsidy To Become Cheaper Than Gas](#)

[Bloomberg, Mar. 12] Wind power will be cheaper than electricity produced from natural gas within a decade, even without a federal tax incentive, according to a U.S. Energy Department analysis. Cost reductions and technology improvements will reduce the price of wind power to below that of fossil-fuel generation, even after a \$23-per-megawatt-hour subsidy provided now to wind farm owners ends, according to a report released Thursday. That may drive up demand for turbines from companies like General Electric Co. and Vestas Wind Systems A/S.

## ENERGY/GENERAL

### [As Mexico Oil Industry Falters, the Search for Private Investment Gains Urgency](#)

[New York Times, Mar. 11] MEXICO CITY — Mexico kicked off the opening of its [oil industry](#) to



great fanfare. At a packed event at the Technology Museum here seven months ago, maps flashed on a giant screen showing dozens of oilfields that would be put up for bid to private companies for the first time in more than 75 years. With oil fetching around \$100 a barrel at the time, the projections were ambitious. Over the next four years, Mexico would attract more than \$12 billion in investment a year. By 2018, private companies would be pumping half a million new barrels of oil a day. Now, oil prices have sunk to almost half that level, and the atmosphere has turned anxious. The question is whether private companies will still be eager to invest. Big energy players have been scaling back their investment plans as oil prices have dropped. To encourage investors to bid, the Mexican government last week sweetened the contract terms. It is also contemplating delaying some auctions until the price environment improves. The energy reform is at the core of President Enrique Peña Nieto's efforts to jump-start the economy after decades of anemic growth. The hope is that private companies will invest heavily in developing new oil and gas fields, creating jobs and adding to the government coffers. "The Peña Nieto administration put all its eggs in the basket of energy reform," said Luis Miguel Labardini, a consultant at Marcos y Asociados, a Mexico City energy consultancy. "If they mess it up, this administration is doomed."

#### [China Approves New Nuclear Reactors in Industry Revival](#)

[Associated Press, Mar. 11] BEIJING — China is reviving growth of its nuclear power industry with approval of its first new project in two years. The Cabinet's planning agency approved construction of two additional reactors at a power plant in the northeastern province of Liaoning, a unit of state-owned China General Nuclear Power Corp. said in an announcement released Tuesday through the Hong Kong stock exchange. China is the world's biggest energy consumer and nuclear power plays a key role in government plans to curb surging demand for imported oil and gas. Foreign suppliers of nuclear power equipment are looking to China as a major future market, though Beijing wants to produce as much of its own technology as possible. Beijing suspended approvals of new nuclear plants after a tsunami hit northeastern Japan in March 2011, crippling the Fukushima plant's cooling and backup power systems and causing partial meltdowns in the worst nuclear disaster since the 1986 Chernobyl catastrophe. The moratorium was lifted in 2012 following a review of safety standards and existing Chinese facilities. The government said it would allow only a small number of new plants to be built. It said they would be in coastal areas and would be required to meet the most stringent safety standards.

#### [Nuclear Power Firms Feel Squeeze](#)

*Cost overruns, delays plague current projects, clouding development of future reactors*

[Wall Street Journal, Mar. 5] Future nuclear power plant development in the U.S. looks dismal as cost overruns and multiyear delays plague four new reactors under construction in Georgia and South Carolina. [Southern Co.](#), the Atlanta-based power utility that dominates much of the Southeastern U.S., recently told Georgia regulators that costs have ballooned by \$1.4 billion for its minority stake in the Vogtle nuclear power plant expansion in Waynesboro, Ga. The company's Georgia Power utility is now on the hook to spend \$7.5 billion for its 46% share, while municipal utilities own the rest. Southern is trying to recoup some of the cost from its vendors, but the company recently notified the state utility commission that it may try to pass on much of the expense to customers, protecting its shareholders from the hit. The company's disclosure shines a light on a persistent industry problem. What was once seen as a major strength of new nuclear reactor designs—a streamlined construction method—is now proving to be an Achilles' heel.

#### [France, Spain To Ease Pyrenees Power Bottleneck](#)

*\* Eastern Pyrenees cable to double interconnection capacity*

*\* No new France-Spain power lines had been built since 1982*

*\* Cable will allow Spain to export huge excess capacity*

*\* RTE and REE study west Pyrenees link for after 2020*

[Reuters, Feb. 14] PARIS — French and Spanish power grid operators have completed a long-awaited power line across the Pyrenees that will allow export of excess Spanish renewable energy and ease one of the worst network bottlenecks in Europe. RTE, a unit of French utility EDF, and Spain's Red Eléctrica are due next week to inaugurate the 1,400-megawatt (MW) cable that will double French-Spanish interconnection capacity to 2,800 MW, equivalent to the output of three nuclear plants. Testing is due to begin this month and commercial operation in June. The 65-km (40-mile) link will be the world's longest underground high-voltage cable, entirely buried at a cost of 700 million euros (\$794 million) to keep the pristine eastern Pyrenees mountain range free of power pylons. Financed partly by a 225 million euro

European Union subsidy and a 350 million euro loan from the European Investment Bank, the project will boost security of supply in both countries, allow exports of Spanish wind energy to Europe, and should lower power prices by smoothing out cross-border peak demand. Daily peak demand is around 7 p.m. in France and about two hours later in Spain. France, heavily reliant on electric heating, imports excess power from Spain in the winter and exports its cheap nuclear power to Spain the rest of the year.

#### [Grain Belt Express Is A New Kind of Transmission Developer](#)

[St. Louis Post-Dispatch, Mar. 8] Raymond, II – Many of the farmers leaving the Knights of Columbus hall here last week made their way over to a pair of protesters standing just outside the parking lot. Some even signed their petition, in the hopes that, as their signs proclaimed, it would “Block Grain Belt Express.” That electric transmission line, like most, has ginned up pockets of local opposition along its route. Some of the reasons are normal: It might use eminent domain if it can’t hash out a deal with landowners and could disrupt farming. One of the issues, however, is new. They’re not an Ameren or a ComEd, helping the community,” Jerry Thomas, a member of Block [Grain Belt Express](#) Illinois, said outside the Knights of Columbus hall, where Grain Belt representatives were holding the last round of public meetings detailing the proposed power line’s route. The Grain Belt Express transmission line is just one of many transmission projects currently in development, but it’s far different than the high-voltage power line projects the region is familiar with. Unlike most transmission lines that are regulated by the Federal Energy Regulatory Commission and receive guaranteed revenue from electric users throughout a region, the Grain Belt Express line is guaranteed nothing. Despite the risk, Grain Belt’s investors appear confident that the growth of wind power, and its need for space on interregional transmission lines, will be all they need to ensure profits. The 700-mile transmission line that would cross both Missouri and Illinois is one of five projects worth north of \$10 billion being pushed by Clean Line Energy Partners, a Houston-based transmission developer. It began working on the projects about five years ago. Three of them would take wind energy from the Great Plains to electricity markets farther east. “There is a lot of capital that wants to invest in transmission assets,” Clean Line President Michael Skelly said in an interview last month in St. Louis. There is also a lot of capital ready to be plowed into wind turbines in Kansas, Oklahoma, Iowa and other windy states, he said. But to get it to the cities and population centers, new transmission capacity has to be built, which is where Clean Line hopes to cash in.

#### [Scientists Outline Research Wish List for Nuclear Energy](#)

[Associated Press, Mar. 5] Albuquerque, N.M. — Engineers and researchers from national laboratories and universities around the country said Thursday that the United States needs to develop a proving ground where the latest innovations in nuclear energy can be put to the test instead of losing designs to China and other countries. Groups gathered at the University of New Mexico, the Massachusetts Institute of Technology and a few other sites around the country as part of an effort by the U.S. Department of Energy to narrow the list of critical research problems the nation needs to address when it comes to nuclear energy. The findings outlined by the six groups are meant to guide decisions on what research to fund. D.V. Rao, a staff member at Los Alamos National Laboratory, said scientists have no way to persuade investors to jump on board without a way to test new ideas on a small scale.

## INDUSTRIES AND TECHNOLOGIES

#### [U.S. Energy Storage Market Growing Fast](#)

[Fierce Energy, Mar. 9] The U.S. energy storage market grew more than 40 percent in 2014, according to a joint research partnership between GTM Research and the Energy Storage Association (ESA). Over the course of the year, 180 storage installations came online, representing 61.9 megawatts of capacity -- up from 44.2 megawatts in 2013. Ninety percent of new U.S. energy storage capacity was in front of the meter, while 10 percent was behind the meter at residential or non-residential (commercial, education, military or non-profit) sites, according to the energy storage report; however, both behind-the-meter segments saw a drastic increase in deployments in the fourth quarter of 2014. GTM Research expects behind-the-meter storage to account for 45 percent of the overall market by 2019.

#### [Will EV Demand Threaten Grid Stability?](#)

[Fierce Energy, Mar. 5] With numerous companies innovating on the future of the electric vehicle (EV), the stability of the grid is a growing concern. A new report takes a look at whether the EV market could potentially overload the power supply in the United States. The report,

"Energy Stat: How Many Electric Vehicles Can the U.S. Power Grid Handle?," by Raymond James & Associates, is the fourth annual report from the group. According to the report, the hurdles for EVs has remained the same over the past four years, including infrastructure constraints, "occasional incidents" -- including recalls and battery fires, and relatively high upfront prices. Although the growth has been slower than expected because of these hurdles, the future of the EV market will likely have a significant impact to the United States grid. The report takes a look at both all-electric and hybrid vehicles. In their 2013 report, they had projected that "the domestic EV market would reach penetration of 1 percent in 2014, but that ended up being overly ambitious -- partly, but not exclusively, because of the oil price meltdown," the report explained, adding that a 23 percent growth in 2014 means penetration has not yet reached that 1 percent mark. In 2014, 119,000 EVs and 452,000 hybrids were sold in the United States, a drop for both industries -- making the total penetration of EVs in the United States .72 percent by the end of 2014. Hybrid penetration was at 2.8 percent in 2014. However, there is optimism for growth in the industry -- largely because of the growing number of options. The drop in sales in 2014 also led to price decreases for many of the cars, and the Tesla Model 3 has an expected price that is somewhere near the mid-\$30,000s. Although many EV owners' home charging kits are enough for them, the EV infrastructure in the United States is still growing. According to the report, in the United States there were more than 9,000 EV charging stations -- with a total of 22,510 charging units -- publicly available as of February 2015. Those units are largely concentrated within a few states, making long-distance driving a gamble for any EV owner. But can that concentration also cause problems for the local electrical grid?

## LEGISLATION AND REGULATION

[DOE and NREL Release Protocols for Efficiency Savings Under its Uniform Methods Project](#) [NASEO website, Mar. 11] The U.S. Department of Energy and its National Renewable Energy Laboratory have published additional protocols for estimating energy savings for residential and commercial energy efficiency programs and measures. DOE has collaborated with the nation's leading experts to develop these documents, which can be adopted by public utility commissions, utilities, program administrators, evaluators, and others. The protocols provide a straightforward method for evaluating gross energy savings for each of the most common residential and commercial measures and programs offered by ratepayer-funded energy efficiency programs in the United States.

### [Federal Energy Subsidies Fall 23% Over Four-Year Period](#)

[Solar Industry Magazine, Mar. 13] Federal energy subsidies in the U.S. dropped 23% from 2010 to 2013, according to a report from the U.S. Energy Information Administration (EIA). According to EIA, total energy subsidies provided by the government decreased from \$38 billion to \$29.3 billion. The decline, notes EIA, reflects "changes in both the type of subsidies offered and fuels that received support." EIA says the report focuses on subsidies to electricity production and also includes subsidies to federal electric utilities in the form of financial support. Subsidies related to electricity went up 38% during this time - from \$11.7 billion to \$16.1 billion. EIA attributes this growth to a \$4.2 billion increase (\$1.1 billion to \$5.3 billion) in solar energy support, "reflecting a large increase in the installation rate of solar facilities utilizing the ARRA [Section 1603](#) grant payments or the 30 percent investment tax credit." Wind energy subsidies also went up during this time period - from \$5.5 billion to \$5.9 billion.

### [Senators' New GEO Act Addresses Geothermal Exploration Catch-22](#)

[Renewable Energy World, Mar. 4] Washington, D.C. -- Developers in the geothermal industry report a common challenge: they often must wait years for permits before they can even determine whether a site is worth the trouble. Something must be done to address this grueling Catch-22, the industry has been saying for years. The Energy Department's Geothermal Technologies Office and National Renewable Energy Laboratory (NREL) have also identified permitting as a major barrier to geothermal development in the U.S. With that in mind, Senators Dean Heller (R-NV) and James Risch (R-ID) have introduced S. 562, the Geothermal Exploration Opportunities Act (GEO Act) to expedite permitting for exploratory drilling for geothermal resources. In a keynote address at the February 24 State of the Geothermal Energy Industry Briefing, hosted by the Geothermal Energy Association (GEA), Senator Heller said he recognizes that working on federal lands is tough. Nevada, in fact, which hosts extensive geothermal and mining resources, is 85 percent federal land. "At a time when Nevada is playing a major role in the United States' 'all-of-the-above' energy strategy, the last thing our geothermal entrepreneurs need is unnecessary bureaucratic red tape," he said.

"The legislation will simplify the review process for initial exploration activities and give developers the tools they need to unleash Nevada's abundant geothermal potential," Heller said in a statement.

#### [Sens. Portman, Shaheen Renew Energy Efficiency Push](#)

[The Hill, Mar. 11] Two senators are putting a renewed effort into their years-long push to establish a cohesive, national energy efficiency policy through legislation. Sens. Rob Portman (R-Ohio) and Jeanne Shaheen (D-N.H.) said Wednesday that they'd the latest version of their energy efficiency bill Wednesday, saying it would improve the efficiency of the federal government while providing voluntary tools for businesses and individuals to reduce their own energy usage. Previous versions of the bill have received broad, bipartisan support, but the issue has been mired in political fights that have prevented its passage. But with 10 new bipartisan provisions, the bill's sponsors are upbeat about its prospects.

#### [Western States Well Positioned To Respond To Upcoming Federal Proposals To Regulate Methane Emissions](#)

[Western Governors' Association, Mar. 9] Western states are well positioned to respond to upcoming federal proposals to regulate methane emissions from oil and gas operations. In fact, a recent [story by Bloomberg BNA](#) points out that federal regulators could look to states such as Colorado -- which in 2014 launched the nation's first [statewide limit on methane emissions](#) from natural gas operations -- for best practices to cut methane emissions. It would be helpful if the Environmental Protection Agency and Bureau of Land Management "reach out to states," said Will Allison, director of the Colorado Air Pollution Control Division. "EPA can learn some valuable lessons from Colorado." That advice in the story by reporter Tripp Baltz echoes Western Governors' Association [Policy Resolution 2015-02: Methane Emissions Regulation](#), which says in part "federal agencies should consult with states early in the rulemaking process, and should take into account state views, opinions, and economic needs."

## WESTERN POWER

#### [California Energy Commission Seeks Boost In Energy Efficiency of Computers, Monitors](#)

[Sacramento Bee, Mar. 12] The California Energy Commission on Thursday proposed energy efficiency standards for computers and monitors that it says will save consumers hundreds of millions of dollars every year. Standards include more energy-efficient monitor screens, improved "sleep" modes for computers when not in use and enhancements in automatic power management. The CEC noted there are significant energy costs when computers and monitors are not in use. When fully implemented, the standards could save 2,702 gigawatt hours a year, reducing consumers' utility bills by a combined \$430 million annually, the CEC said.

#### [Floating Solar Panel Project Due in 2016 from California Power Company](#)

*Sonoma Clean Power unveiled a plan to install a 12.5-megawatt solar farm on floating dock, providing enough electricity to power 3,000 homes.*

[Tribune News Service, Feb. 27] Sonoma County, Calif.'s new public electricity supplier is turning to the sun and water — the airspace over treated sewage ponds, specifically — to generate power for local homes and businesses. Under a deal signed Thursday with a San Francisco-based renewable energy developer, officials with Sonoma Clean Power, now the default electricity provider in Sonoma County, unveiled a plan to install a 12.5-megawatt solar farm on floating docks atop holding ponds operated by the county Water Agency. When completed in 2016, the project, which will provide enough electricity to power 3,000 homes, will be the largest solar installation in the county. It also will help fulfill one of Sonoma Clean Power's central goals — to develop local sources of renewable energy for its expanding customer base, now taking in more than 160,000 residential and commercial accounts across five cities in the county. Before its launch last May, and through its first nine months of operation, the public venture faced pointed questions as to how quickly it would be able to spearhead local energy projects given constraints on rural land use and the comparatively higher price of power from smaller systems versus large, far-flung industrial sources.

#### [US, California Modify Area for Renewable Energy Plants](#)

[Associated Press, Mar. 10] SAN DIEGO — The state and federal governments will move forward on less than half the California desert land initially designated for renewable energy plants, officials said Tuesday, leaving millions of acres in limbo as local governments decide how they want to handle large-scale solar, wind and geothermal projects. Regulators will initially focus on about 10 million acres of federal land overseen by the U.S. Bureau of Land



Management in the Mojave and other Southern California deserts. Their initial plan, unveiled in September, designated 22.5 million acres across seven counties. Much of the remaining 12.5 million acres is privately owned and will be considered on separate timetables. Projects on private property would likely need to be approved by local governments, which clamored for a bigger say on the sweeping plan that attempts to bring order to a renewable-energy building boom in California's deserts during the first term of the Obama administration. The plan's authors estimate that 470,000 acres would be needed for projects to produce 20,000 megawatts by 2040. Andy Horne, Imperial County's deputy executive and point man on renewable energy plants, said some residents worry that solar, wind and geothermal plants will replace farming jobs in the agricultural region of 175,000 people, which consistently registers one of the nation's highest unemployment rates. The maps released in September covered many farms, prompting the county to plead for more time.

## ARIZONA STATE INCENTIVES/POLICIES

### ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News

DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

## GRANTS

**Students – Geothermal Resources Council (GRC)** – The GRC presents news and information for students in the global geothermal community. There are some great opportunities for student scholarships in geothermal. For more information, visit the link below. You will find "Scholarships" half way down the page.

Website: <http://www.geothermal.org/students.html>

The following solicitations are now available:

*(Click on title to view solicitation)*

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- **Planning Program and Local Technical Assistance Program (EDAPLANNING2012)–**  
Applications Accepted on a Continuous Basis

- **Environmental Quality Incentive Program** - Applications Accepted on a Continuous Basis
- **NEW – Economic Development Assistance Programs (EDAP2015)**– Applications due March 12, 2014 and June 15, 2015
- **Sustainable and Holistic Integration of Energy Storage and Solar PV (SHINES)**  
Close Date: 3/19/2015
- **NEW – DUE SOON!**  
**Network Optimized Distributed Energy Systems (NODES) program (DE-FOA-0001289)** – Concept Papers due March 20, 2015
- **NEW! Agricultural Water Conservation and Efficiency Grants Fostering District/Farmer Partnerships (R15AS00030)** – Applications due March 24, 2015
- **NEW! Offshore Storage Resource Assessment (DE-FOA-0001246)** –Applications due March 26, 2015
- **NEW! Transitional Technology Development to Enable Highly Efficient Power Systems with Carbon Management (DE-FOA-0001238)** –Applications due March 30, 2015
- **NEW! Agriculture and Food Research Initiative - Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area (USDA-NIFA-AFRI-004919)** – Letter of Intent due April 2, 2015
- **NEW! American Indian Air Quality Training Program (EPA-OAR-IO-15-03)** – Applications due April 3, 2015
- **NEW! Agriculture and Food Research Initiative - Water for Agriculture Challenge Area (USDA-NIFA-AFRI-004918)** – Letters of Intent due April 9, 2015
- **NEW! Agriculture and Food Research Initiative - Water for Agriculture Challenge Area (USDA-NIFA-AFRI-004918)** – Letters of Intent due April 9, 2015
- **NEW! Near Zero Power RF and Sensor Operations (DARPA-BAA-15-14)**– Applications due April 23, 2015
- **Solar Powering America by Recognizing Communities (SPARC)**  
Funding Number: DE-FOA-0001241 – Concept Paper Submission Deadline: 3/5/2015 5:00 PM ET; Full Application Submission Deadline:4/27/2015 5:00 PM ET; Webinar Information: Date: February 18, 2015 Time: 4:00pm Eastern  
Register here: <https://attendee.gotowebinar.com/register/3005409845756656642>
- **Desalination and Water Purification Research and Development (DWPR) (R15AS00019)** – Application Due Date: 4/27/2015
- **Desalination and Water Purification Research and Development (DWPR) Pilot (R15AS00021)** – Application Due Date: 4/27/2015
- **American Apprenticeship Initiative (FOA-ETA-15-02)** – Application Due Date: 4/30/2015
- **The Resilient Electricity Delivery Infrastructure (REDI) Initiative (DE-FOA-0001219)** – Application Due Date: 5/04/2014
- **Flexible Hybrid Electronics Manufacturing Innovation Institute Grant (BAA-RQKM-2015-0014)** – Applications due 5/29/2015
- **Advanced Frontiers in Renewable Hydrogen Fuel Production via Solar Water**

[Splitting Technologies](#) – Letter of Intent due 10/7/2015

- [Land and Water Conservation Fund State and Local Assistance Program](#) – Application Due Date: 08/11/2015
- [Thermal Transport Processed \(PD-14-1406\)](#) – Application due 10/20/2015
- **NEW!** [Energy for Sustainability \(PD-14-7644\)](#) – Applications due October 20, 2015
- **NEW!** [Biotechnology, Biochemical, and Biomass Engineering \(PD-14-1491\)](#) - Applications due October 20, 2015
- **NEW!** [Catalysis and Biocatalysis \(PD-14-401\)](#) - Applications due October 20, 2015
- **NEW!** [Energy, Power, and Adaptive Systems \(PD-13-7607\)](#) –Applications due November 2, 2015
- [Landscape Design for Sustainable Bioenergy Systems \(DE-FOA-0001179\)](#) – Concept Paper due 11/21/2015
- [Repowering Assistance Program](#) - Ongoing
- [Rural Business Enterprise Grants](#) - Ongoing
- [Rural Business Opportunity Grants](#) – Ongoing
- [Rural Energy for America Program](#)
- [Sunshot Catalyst Prize \(DE-FOA-0001126\)](#) - Applications Accepted on a Continuous Basis - The U.S. Department of Energy SunShot Catalyst is an open innovation program that allows the public to rapidly create and develop products and solutions that address near-term challenges in the U.S. solar marketplace through prize challenges.
- [Sustainable Agriculture Research and Education Grants](#) - Ongoing
- [Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power](#) – Various Deadlines
- [U.S. Dept. of Agriculture - Rural Development Grant Assistance](#)
- [Green Refinance Plus](#) – Ongoing
- [National Science Foundation Funding Opportunities](#)